# CPSC 386: Introduction to Game Design and Production – Fall 2018

## Project One, due 21 September 2018

Use Python and PyGame to build the Alien Invasions application from the book Python Crash Course, by Eric Matthes.  The code is developed in three chapters (ch. 12, 13, and 14) of the book.

Chapter 12 installs Pygame, creates the project, and adds the ship image, programs it to move, then adds bullets (or lasers if you prefer) to shoot at the aliens.

Chapter 13 adds aliens to the game: first one alien, then a row of them, and then a fleet of aliens. It then adds the ability for the aliens to move as a group, then change directions and drop down when they hit the edge of the screen. Bullet/alien collisions, and collisions between the aliens and the ship are then added, causing aliens to be blown up, or the ship to be destroyed.

Chapter 14 adds a play button to start the game, hides the mouse, and creates a scoreboard that shows the score, the level, the high score, and the number of ships that remain.

As you develop the code, it will be refactored several times to add more classes, more class methods, more files, more functions, and more function arguments. Failing to match the arguments passed to the methods or functions will cause the program to crash.

Students who wish to change the icons for the ship or the aliens may do so, for example, using Gimp, Inkscape, or your favorite graphics editor (available online for free).
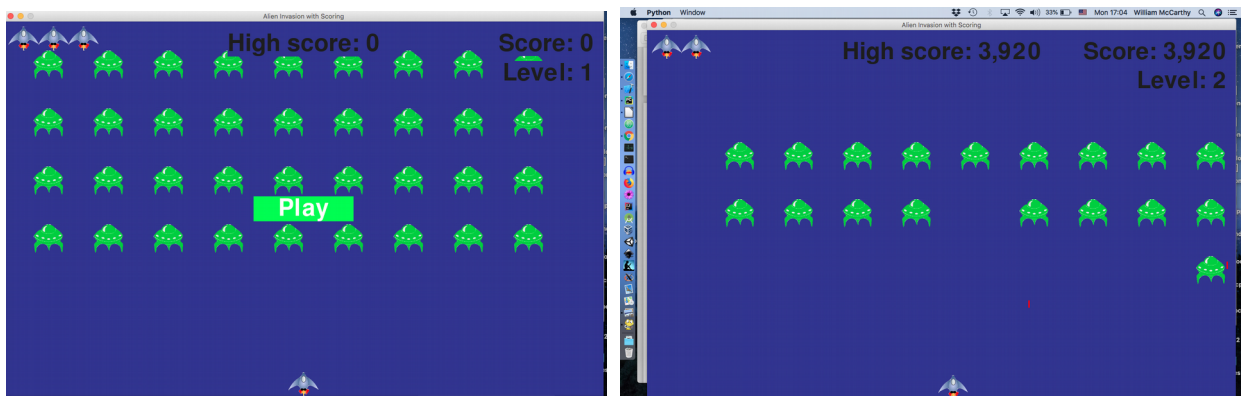


*Note: the code used in this project will be the basis for a future Space Invaders project, with multiple types of aliens and ufo's, aliens that shoot back, bunkers to hide behind, pixel manipulations that destroy the bunkers bit by bit (by both the aliens and the ship), background music and sound effects.*